

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known	
		Application Number	10/728,869
		Filing Date	12/08/2003
		First Named Inventor	Suneel Ismail Sheikh
		Art Unit	3661 CUONG NGUYEN
		Examiner Name	PRIMARY EXAMINER
Attorney Docket Number	MR2833-29		
Sheet	1	of	5

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
CHAN	A1	W.G. Melbourne, "NAVIGATION BETWEEN THE PLANETS", Scientific American, Vol. 234, No. 6, June 1976, pp. 58-74	
CHAN	B1	J.F. Jordan, "NAVIGATION OF SPACECRAFT ON DEEP SPACE MISSIONS", Journal of Navigation, Vol. 40, January 1987, pp. 19-29	
CHAN	C1	C.J. Weeks, et al., "ANALYTICAL MODELS OF DOPPLER DATA SIGNATURES", paper AAS 94-178, Advances in Astronautical Sciences, Vol. 87, No. 2, 1994.	
CHAN	D1	R. Gounley, et al. "AUTONOMOUS SATELLITE NAVIGATION BY STELLAR REFRACTION", Journal of Guidance and Control, Vol. 7, No. 2, March-April 1984, pp. 129-134	
CHAN	E1	D.C. Folta, et al. "AUTONOMOUS NAVIGATION USING CELESTIAL OBJECTS", paper AAS 99-439, presented at the American Astronautical Society Astrodynamics Specialist Conference, August 1999, pp. 2161-2177	
CHAN	F1	G.S. Downs, "INTERPLANETARY NAVIGATION USING PULSATING RADIO SOURCES" NASA Technical Reports N74-34150, October 1, 1974, pp. 1-12	
CHAN	G1	Kevin Wallace, "RADIO STARS, WHAT THEY ARE AND THE PROSPECTS FOR THEIR USE IN NAVIGATIONAL SYSTEM", Journal of Navigation, Vol. 41, September 1988, pp. 358-374	
CHAN	H1	T.J. Chester, et al., "NAVIGATION USING X-RAY PULSARS" NASA Technical Reports N81-27129, June 15, 1981, pp. 22-25.	
CHAN	I1	K.S. Wood, "NAVIGATION STUDIES UTILIZING THE NRL-801 EXPERIMENT AND THE ARGOS SATELLITE", Small Satellite Technology and Applications III, Ed. B.J. Horais, SPIE Proceedings, Vol. 1940, 1993, pp. 105-116	
CHAN	J1	John Eric Hanson, "PRINCIPLES OF X-RAY NAVIGATION", Doctoral Dissertation, Stanford University, March 1996.	

Examiner Signature	<i>Cuong Nguyen</i>	Date Considered	12/11/06
--------------------	---------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10/728,869
Filing Date	12/08/2003
First Named Inventor	Suneel Ismail Sheikh
Art Unit	3661
Examiner Name	CUONG NGUYEN PRIMARY EXAMINER
Attorney Docket Number	MR2833-29

Sheet

2

of

5

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
CHAN	K1	K.S. Wood, et al., "THE USA EXPERIMENT ON THE ARGOS SATELLITE: A LOW COST INSTRUMENT FOR TIMING X-RAY BINARIES", EUV, X-Ray, and Gamma-Ray Instrumentation for Astronomy V, Eds. O.H. Siegmund & J.V. Vallerger, SPIE Proceedings, Vol. 2280, 1994, p. 19	
CHAN	L1	K.S. Wood, et al., "THE USA EXPERIMENT ON THE ARGOS SATELLITE: A LOW COST INSTRUMENT FOR TIMING X-RAY BINARIES", The Evolution of X-ray Binaries, Eds. S.S. Holt and C.S. Day, American Institute of Physics Proceedings, No. 308, 1994, p. 561-564	
CHAN	M1	P.S. Ray, et al., "THE USA X-RAY TIMING EXPERIMENT", American Institute of Physics Conference Proceedings, Vol. 599, 2001, p. 336	
CHAN	N1	G.S. Downs, et al., "TECHNIQUES FOR MEASURING ARRIVAL TIMES OF PULSAR SIGNALS I: DSN OBSERVATIONS FROM 1968 TO 1980", NASA Technical Reports N80-33317, August 15, 1980, pp. 1-80.	
CHAN	O1	J.H. Taylor et al., "RECENT PROGRESS IN THE UNDERSTANDING OF PULSARS", Annual Review of Astronomy and Astrophysics, Vol. 24, 1986, pp. 285-327	
CHAN	P1	P.S. Ray, et al., "ABSOLUTE TIMING OF THE CRAB PULSAR: X-RAY, RADIO, AND OPTICAL OBSERVATIONS", American Astronomical Society Meeting #201, December 2002	
CHAN	Q1	P.S. Ray, et al., "ABSOLUTE TIMING OF THE USA EXPERIMENT USING PULSAR OBSERVATIONS", American Astronomical Society, HEAD Meeting #35, March 2003	
CHAN	R1	K.S. Wood, et al., "THE HEAO A-1 X-RAY SOURCE CATALOG", Astrophysical Journal Supplemental Series, Vol 56, December 1984, pp. 507-649	
CHAN	S1	W. Voges, et al., "THE ROSAT ALL-SKY SURVEY BRIGHT SOURCE CATALOGUE (1RXS)", Astronomy and Astrophysics, Vol. 349, 1999, pp. 389-405	
CHAN	T1	W. Voges, et al., "THE ROSAT ALL-SKY SURVEY FAINT SOURCE CATALOGUE", International Astronomical Union Circular 7432, May 2000	

Examiner Signature	<i>Cuong Nguyen</i>	Date Considered	12/11/06
--------------------	---------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known	
		Application Number	10/728,869
		Filing Date	12/08/2003
		First Named Inventor	Suneel Ismail Sheikh
		Art Unit	3661 CUONG NGUYEN
		Examiner Name	PRIMARY EXAMINER
Sheet 3	of 5	Attorney Docket Number	MR2833-29

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
CHAN	U1	R.N. Manchester, et al., "THE PARKES MULTI-BEAM PULSAR SURVEY", Monthly Notices of the Royal Astronomical Society, Vol. 328, 2001, pp. 17-35	
CHAN	V1	G.B. Hobbs, et al. "A NEW PULSAR CATALOG", to be published in the Astronomical Journal	
CHAN	W1	J.H. Taylor, et al., "CATALOG OF 558 PULSARS", Astrophysical Journal Supplemental Series, Vol. 88, 1993, pp. 529-568	
CHAN	X1	D.N. Matsakis, et al., "A STATISTIC FOR DESCRIBING PULSAR AND CLOCK STABILITIES", Astronomy and Astrophysics, Vol. 326, 1997, pp. 924-928.	
CHAN	Y1	V. M. Kaspi, et al., HIGH-PRECISION TIMING OF MILLISECOND PULSARS. III. LONG-TERM MONITORING OF PSRS B1855+09 AND B1937+21", Astrophysical Journal, Vol. 428, June 1994, pp. 713-728.	
CHAN	Z1	A.G. Lyne, et al., "JODRELL BANK CRAB PULSAR TIMING RESULTS, MONTHLY EPHEMERIS", University of Manchester, August 13, 2002 Unpublished.	
CHAN	A2	J.H. Taylor, "PULSAR TIMING AND RELATIVISTIC GRAVITY", Philosophical Transactions Royal Society of London, Vol. 341, 1992, pp. 117-134	
CHAN	B2	R.W. Hellings, "RELATIVISTIC EFFECTS IN ASTRONOMICAL TIMING MEASUREMENTS", Astronomical Journal, Vol. 91, No. 3, March 1986, pp. 650,659	
CHAN	C2	Theodore D. Moyer, "TRANSFORMATION FROM PROPER TIME ON EARTH TO COORDINATE TIME IN SOLAR SYSTEM BARYCENTRIC SPACE-TIME FRAME OF REFERENCE, PART 1", Celestial Mechanics, Vol. 23, 1981, pp. 33-56.	
CHAN	D2	Theodore D. Moyer, "TRANSFORMATION FROM PROPER TIME ON EARTH TO COORDINATE TIME IN SOLAR SYSTEM BARYCENTRIC SPACE-TIME FRAME OF REFERENCE, PART 2", Celestial Mechanics, Vol. 23, 1981, pp. 57-68	

Examiner Signature	<i>Cuong Nguyen</i>	Date Considered	12/11/06
--------------------	---------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	10/728,869
Filing Date	12/08/2003
First Named Inventor	Suneel Ismail Sheikh
Art Unit	3661 CUONG NGUYEN
Examiner Name	PRIMARY EXAMINER
Attorney Docket Number	MR2833-29

Sheet

4

of

5

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
CHAN	E2	J. B. Thomas, "REFORMULATION OF THE RELATIVISTIC CONVERSION BETWEEN COORDINATE TIME AND ATOMIC TIME", Astronomical Journal, Vol. 80, No. 5, May 1975, pp. 405-411	
CHAN	F2	D.C. Backer, et al., "PULSAR TIMING AND GENERAL RELATIVITY", Annual Review of Astronomy and Astrophysics, Vol. 24, 1986, pp. 537-575.	
CHAN	G2	P. Stumpff, "ON THE COMPUTATION OF BARYCENTRIC RADIAL VELOCITIES WITH CLASSICAL PERTURBATION THEORIES", Astronomy and Astrophysics, Vol. 56, 1977, pp. 13-23.	
CHAN	H2	P. Stumpff, "THE RIGOROUS TREATMENT OF STELLAR ABERRATION AND DOPPLER SHIFT, AND THE BARYCENTRIC MOTION OF THE EARTH", Astronomy and Astrophysics, Vol. 78, 1979, pp. 229-238.	
CHAN	I2	Duncan R. Lorimer, "BINARY AND MILLISECOND PULSARS AT THE NEW MILLENNIUM", Living Review in Relativity, Max Planck Institute for Gravitational Physics, Albert Einstein Institute, Germany, June 2001.	
CHAN	J2	C.F. Martin et al. "RELATIVISTIC EFFECTS ON AN EARTH-ORBITING SATELLITE IN THE BARYCENTER COORDINATE SYSTEM", Journal of Geophysical Research, Vol. 90, No. B11, September 1985, pp. 9403-9410	
CHAN	K2	Clifford M. Will et al., "CONSERVATION LAWS AND PREFERRED FRAMES IN RELATIVISTIC GRAVITY. I. PREFERRED-FRAME THEORIES AND EXTENDED PPN FORMALISM", Astrophysical Journal, Vol. 177, Nov. 1972, pp. 757-774	
CHAN	L2	K. Nordtvedt, Jr., et al., "CONSERVATION LAWS AND PREFERRED FRAMES IN RELATIVISTIC GRAVITY. II. EXPERIMENTAL EVIDENCE TO RULE OUT PREFERRED-FRAME THEORIES OF GRAVITY", Astrophysical Journal, Vol. 177, Nov. 1972, pp. 775-792.	
CHAN	M2	Gary W. Richter, et al., "SECOND-ORDER CONTRIBUTIONS TO RELATIVISTIC TIME DELAY IN THE PARAMETERIZED POST-NEWTONIAN FORMALISM", Physical Review D, Vol. 28, No. 12, Dec. 1983, pp. 3006-3012.	
CHAN	N2	Neil Ashby et al., "COORDINATE TIME ON AND NEAR THE EARTH", Physical Review Letters, Vol. 53, No. 19, Nov. 1984, p. 1858.	

Examiner Signature	<i>Cuong Nguyen</i>	Date Considered	12/11/06
--------------------	---------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete If Known	
		Application Number	10/728,869
		Filing Date	12/08/2003
		First Named Inventor	Suneel Ismail Sheikh
		Art Unit	3661
		Examiner Name	CUONG NGUYEN PRIMARY EXAMINER
Sheet 5	of 5	Attorney Docket Number	MR2833-29

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
CAN	O2	Irwin I. Shapiro, "FOURTH TEST OF GENERAL RELATIVITY", Physical Review Letters, Vol. 13, No. 26, Dec. 1964, pp. 789-791	
CAN	P2	L. A. Rawley et al., "FUNDAMENTAL ASTROMETRY AND MILLISECOND PULSARS", Astrophysical Journal, Vol. 326, March 1988, pp. 947-953	
CAN	Q2	V.M. Kaspi, "HIGH-PRECISION TIMING OF MILLISECOND PULSARS AND PRECISION ASTROMETRY", Proceedings of 166th Symposium of the International Astronomical Union, Eds. E. Hog and P. Kenneth Seidelmann, Aug. 1994, pp. 163-174.	
CAN	R2	J.F. Bell, "RADIO PULSAR TIMING", Advances in Space Research, Vol. 21, No. 1/2, 1998, pp. 137-147	
CAN	S2	J.H. Taylor et al., "FURTHER EXPERIMENTAL TESTS OF RELATIVISTIC GRAVITY USING THE BINARY PULSAR PSR 1913+16", Astrophysical Journal, Vol. 345, October 1989, pp. 434-450.	
CAN	T2	Roger Blandford, et al., "ARRIVAL-TIME ANALYSIS FOR A PULSAR IN A BINARY SYSTEM", Astrophysical Journal, Vol. 205, April 1976, pp. 580-591.	
CAN	U2	Sergei M. Kopeikin, "MILLISECOND AND BINARY PULSARS AS NATURE'S FREQUENCY STANDARDS-II. THE EFFECTS OF LOW-FREQUENCY TIMING NOISE ON RESIDUALS AND MEASURED PARAMETERS", Monthly Notices of the Royal Astronomical Society, Vol. 350, 1999, pp. 563-590.	
CAN	V2	P. Kenneth Seidelmann, Ed., Explanatory Supplement to the Astronomical Almanac, University Science Books, 1992, Portion of Chapter 2.	

Examiner Signature	<i>Cuong Nguyen</i>	Date Considered	12/11/06
--------------------	---------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.